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METHODS FOR FIELD STUDY OF INDUSTRIAL FATIGUE.¹

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Field investigation into industrial fatigue means investigation carried out in the factory itself, where fatigue is produced by ordinary work, as contrasted with experiments carried on in the laboratory, where fatigue is produced artificially and "ad hoc." These field investigations fall into two classes, investigations which measure ordinary natural fatigue by means of artificial "tests," such as the tests of reaction time or tests of sense acuity, carried out notably by Prof. Stanley Kent under the British Home Office and described in his two interim reports of 1915 and 1916, and investigations which measure fatigue by the ordinary events of industrial life, such as output (quantity and quality), accidents, power consumption, sickness, labor turnover. The most usual measure to take is that of quantity of output, wherever this does not depend exclusively on the speed of the machine. The data of the investigator are here either found ready for him in factory records kept for purposes of checking wages or measuring efficiency, or the investigator may observe and record the industrial processes himself. The output measure has been used recently by the British Health of Munition Workers Committee. Dr. Vernon, in Memoranda 12 and 18, has compared the output of the same individual workers in the same factory under different hourly schedules, i. e., he has compared the output per hour in a 70-hour working week against the output per hour in a 60-hour week. This was also the method pursued by Dr. Abbé in his famous experiment at the Zeiss Optical Works in reducing hours from 9 to 8 per day. Again in their interim report the British Health of Munition Workers Committee compared the output per hour on night work against the output per hour of the same workers when on the day shift, and they also compared the output per hour under different incentives.

¹ Read before the Section on Industrial Hygiene of the American Public Health Association, Washington, D. C., Oct. 19, 1917.

Now, all these investigations have compared the output of a given number of individuals before with the output after a change. Yet changes in hours are very distasteful to most factory owners. They require thought and involve many incidental rearrangements. The field for the "before and after" comparison is therefore strictly limited, and what I wish to put before you to-day is a method of testing fatigue which shall not depend immediately on any change in factory schedules.

This test may be called that of the "hourly output curve." Curiously enough, it was first used on a large scale by the United States Government in the report on Women and Child Wage Earners¹ (1910-1912). In volume 11 a table is given stating the output from stamping presses for every hour of the day. Twenty-three machines were observed from 1 to 7 days each and the output for each hour, (8 to 9, 9 to 10, etc.) added up in a total, 10 working hours being compared. Similarly in the Federal report on the Conditions of Employment in the Iron and Steel Industry² (1911) the number of blows from two Bessemer converters is given for 8 months for every hour of two 12-hour shifts.

Fatigue consists in a diminution of activity that is itself caused by activity. As activity proceeds activity falls, and the theory is that a comparison of the output of consecutive hours will show exactly to what extent the unrelaxed tension of activity will result in fatigue toward the end of a spell and toward the end of the working day, and exactly how far rest pauses, meal intervals, and a night's sleep will allow human capacity to gain recovery.

But it was peculiarly unfortunate that the two operations chosen by the Federal Government were of a nature not yielding definite evidence of fatigue. Work on a stamping press is extremely monotonous, and only subjectively, not objectively, tiring, while in the operation of the Bessemer converter, numerous pauses allowing for recuperation occur in the work. Between every blow the men have to wait for the completion of the material process. The result in both cases was a straight line of output throughout the day instead of a falling curve.

In collecting material for the British Association Committee on Fatigue from the Economic Standpoint (1915) I obtained several output curves which differed radically from those collected by the Federal Government. The operations I chose consisted mainly in soldering by hand or in labeling biscuit tins, work requiring a certain degree of attentiveness and coordination and capable of being carried on without any pauses whatever. Comparing the different hours of the spell, a curve was obtained not very unlike the fatigue curve yielded by the contractions of a continuously stimulated muscle.

The Federal Government was discouraged by the lack of any signs of fatigue in the curves they collected, and this discouragement seems

¹ 61st Cong., 2d Sess., Doc. 645.

² 62d Cong., 1st Sess., Doc. 110, Vol. IV.

to have spread to investigations elsewhere. Nevertheless, there seem to me to be some very good reasons why the hourly output tests should be developed and extended.

First of all, the record of output is usually easy to secure every hour. Foremen often keep it for their own benefit in estimating at any given time how the day's work is progressing. Often also there are automatic registers attached to machines to record each unit of output as on a cyclometer, and the total attained each hour may be read off at a glance.

Secondly, the output curve can be accompanied by curves in other very significant events of factory life. I refer to accidents and to the consumption of power. Just as output can be plotted from hour to hour, so can the number of accidents occurring in any factory and the amount of electrical power consumed. And with these latter tests the evidence of fatigue can not be isolated except by hourly curves. It gives no indication of fatigue to compare the rate of accidents for the whole factory during long periods under different schedules, since the rate of accidents depends so largely on the type of machine used and the experience of the workers, and these factors vary enormously at different periods. Further, in the investigations into output made hitherto, the same workers were selected for comparison before and after the change in hours, but it is impossible to do this in the case of accidents, since such selected workers may never have any accidents at all. Accidents must always be studied over the factory as a whole. Similarly with power consumption, it is very seldom that a factory keeps any records of the power consumed on certain machines or by certain special workers. The record has to be made for the factory as a whole, and with power records as with accidents it is always hard to keep all the disturbing factors constant where different and often far-distant periods are compared.

The accident curve for different hours of the working day, it is true, has often been rejected as an index of fatigue, owing to the curve showing a peak one hour from the end, rather than at the end of the spell. Why there should be a drop in the last hour it is difficult to explain. My own theory is that the anticipation of a break in his work and of food and rest makes the worker more alert and he becomes more alive to the dangers in his surroundings. But whatever the theory, an analysis of the circumstances of accidents will show a surprisingly high percentage of occurrences which the injured man could have avoided either by a quick reaction to danger or by more attention or better coordination. Accidents due purely to mechanical causes are usually not more than 5 or 10 per cent of the whole number. In my opinion, therefore, a rise in accidents must form an admirable

measure of fatigue, particularly of a psychological fatigue affecting attention and alertness rather than rapidity of motion.

There is, however, one element in the accident curve that leads to confusion. It is obvious that the more frequently a man's hands pass certain danger points in a given period of time, the more liable are accidents to occur; thus the accident curve depends partly on the worker's speed of production and will tend to rise as output is increased. To this extent, a rise in accidents will measure a rise in working capacity and not a fall. It is necessary, therefore, to eliminate this factor in the accident curve and to correct the figures to some standard output. But accidents, as we have said before, can be measured only over the whole factory and to obtain a measure of output for the whole factory also with all its varying operations and productive and nonproductive duties, is practically impossible. In this dilemma the curve of power consumption comes to our aid. Wherever, as is usually the case, the machinery and the workman jointly combine in setting the pace, it is a curve corresponding roughly to the output and yet it is obtained for the whole factory. If therefore the number of accidents per hour be divided by the amount of power consumed each hour, we shall get the curve representing the worker's loss of capacity in attention and alertness quite irrespective of the amount of work he is doing. It is this composite curve together with the curve of output described above that may yield one of the most nearly perfect measures of fatigue in the factory.

A third advantage of the hourly curve is the subtle distinction it brings out between the fatiguing effect of different types of work and possibly of different types of conditions also. Dr. Lee was able to demonstrate that monotonous work, work requiring attention, and work involving muscular strain, might yield several different shapes of curves. Unless the change of hours in a factory is very frequent the "before-and-after" comparison does not yield more than one or two combinations. It is the great number of readings composing the curve, usually 10 a day, that renders possible a more subtle analysis.

I can not close honestly without admitting one disadvantage to the hourly curve method. In their practical application the results of the curve do not point so directly to any one policy as the "before-and-after" type of investigation. The curve is obtained under one factory schedule. It is not in itself a comparison of two different schedules one of which can be declared superior to the other. If an output or power consumption curve should fall or an accident curve rise steeply, conditions are obviously wrong, but what conditions may lead to better results is not directly indicated by the figures.

However, if a sufficient number of observations is made, the curves obtained permit comparisons between different factories and different conditions in the same factory that would be impossible to secure by the direct before-and-after method. In using the curves, no comparison of absolute figures is contemplated. Absolute figures of output are determined not merely by human capacity but by the efficiency of machines, the quality of material, the discipline exercised by the foreman and the general coordination of the factory staff. If compared directly, the hourly output of one factory against the hourly output of another factory, even on exactly the same process, might demonstrate nothing more than superior machines and superior foremen and superior materials in the one, as against the other. It would not show necessarily any superior schedule of hours. The curve method involves only a comparison of figures determined under the same conditions. The figures are yielded hour to hour in the same factory or section of the factory. Between the hours there can be no changes in factory organization or equipment. If the output curve in one factory drops heavily as work increases in length, while in another factory on the same operation the output curve continues steadily, then we may conclude that the latter factory has so arranged its hours and conditions of work that the workers do not suffer from undue fatigue at the end of their day.

I include a consideration of factory conditions advisedly, because the occurrence of fatigue, though running parallel with the length and intensity of activity, may yet be retarded or expedited in its course by different degrees of heat, damp, noise, dust, smell, comfort of posture, and so on, and as soon as accurate instruments are devised for grading each condition, its peculiar effect on the curves may be investigated just as scientifically as the effect of long hours, and the investigation will be just as important.

PREVALENCE OF DISEASE.

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring.

UNITED STATES.

EXTRA-CANTONMENT ZONES—CASES REPORTED WEEK ENDED MARCH 12.

CAMP BEAUREGARD ZONE, LA.		CAMP DODGE ZONE, IOWA—continued.	
Alexandria:		Smallpox:	
Smallpox.....	2	Des Moines.....	31
Tuberculosis.....	1	Syphilis:	
		Des Moines.....	7
CAMP BOWIE ZONE, TEX.		CAMP FUNSTON ZONE, KANS.	
Fort Worth:		Chicken pox:	
Cerebrospinal meningitis.....	2	Manhattan.....	1
Diphtheria.....	1	Diphtheria:	
Gonorrhea.....	5	Manhattan.....	1
Malaria.....	2	Measles:	
Measles.....	4	Junction City.....	5
Pneumonia, lobar.....	4	Ogden.....	1
Smallpox.....	11	Cleburne.....	3
Syphilis.....	2	Army City.....	1
Tuberculosis, pulmonary.....	1	Riley.....	3
		Manhattan.....	6
CAMP DEVENS ZONE, MASS.		Mumps:	
German measles:		Junction City.....	4
Ayer.....	1	Ogden.....	1
Lancaster.....	5	Cleburne.....	1
Lunenburg.....	2	Manhattan.....	9
Westford.....	1	Pneumonia:	
Measles:		Junction City.....	1
Westford.....	4	Scarlet fever:	
Mumps:		Junction City.....	2
Lancaster.....	7	Manhattan.....	5
Pneumonia, lobar:		Smallpox:	
Westford.....	1	Manhattan.....	1
		Riley.....	1
CAMP DODGE ZONE, IOWA.		Whooping cough:	
Diphtheria:		Junction City.....	1
Des Moines.....	9		
German measles:		CAMP GORDON ZONE, GA.	
Des Moines.....	2	Atlanta:	
Grimes.....	1	Cerebrospinal meningitis.....	4
Gonorrhea:		Chicken pox.....	2
Des Moines.....	3	Diphtheria.....	2
Measles:		Dysentery, amebic.....	2
Des Moines.....	6	German measles.....	2
Grimes.....	5	Gonorrhea.....	26
Pneumonia:		Hookworm infection.....	4
Grimes.....	2	Malaria.....	1
Scarlet fever:		Measles.....	16
Des Moines.....	13	Mumps.....	38
Grimes.....	1	Pneumonia.....	4
Bloomfield Township.....	1	Scarlet fever.....	8
		Septic sore throat.....	1

CAMP GORDON ZONE, GA.—continued.

Atlanta—Continued.	
Smallpox.....	7
Syphilis.....	10
Typhoid fever.....	1
Tuberculosis.....	4
Whooping cough.....	2
Scottdale:	
Typhoid fever.....	1
Smallpox.....	1
Kirkwood:	
Smallpox.....	1

CAMP GREENE ZONE, N. C.

Charlotte Township:	
Chancroid.....	1
Chicken pox.....	2
German measles.....	6
Gonorrhea.....	10
Malaria.....	4
Measles.....	7
Mumps.....	5
Syphilis.....	9
Tuberculosis.....	8
Typhoid fever.....	1
Whooping cough.....	7

CAMP JACKSON ZONE, S. C.

Columbia:	
Cerebrospinal meningitis.....	1
Measles.....	4
Mumps.....	6
Pneumonia.....	1
Scarlet fever.....	1
Tuberculosis.....	2
Typhoid fever.....	1
Whooping cough.....	5

CAMP JOSEPH E. JOHNSTON ZONE, FLA.

Jacksonville:	
Chicken pox.....	3
Erysipelas.....	2
Measles.....	4
Mumps.....	6
Scarlet fever.....	1
Trachoma.....	3
Tuberculosis.....	4
Typhoid fever.....	3
Whooping cough.....	1
East Port:	
Mumps.....	1

FORT LEAVENWORTH ZONE, KANS.

Chicken pox:	
Leavenworth.....	4
German measles:	
Leavenworth.....	7
Leavenworth County.....	3
Measles:	
Leavenworth.....	7
Leavenworth County.....	1
Mumps:	
Leavenworth County.....	1
Pneumonia, lobar:	
Leavenworth.....	1
Leavenworth County.....	2

FORT LEAVENWORTH ZONE, KANS.—continued.

Scarlet fever:	
Leavenworth.....	2
Smallpox:	
Leavenworth.....	5
Leavenworth County.....	3
Tuberculosis:	
Leavenworth.....	1

CAMP LEE ZONE, VA.

Cerebrospinal meningitis:	
Prince George County.....	1
Chicken pox:	
Prince George County.....	7
Chancroid:	
Petersburg.....	1
German measles:	
Prince George County.....	4
Dinwiddie County.....	1
Ettricks.....	2
Gonorrhea:	
Petersburg.....	1
Malaria:	
Dinwiddie County.....	1
Measles:	
Petersburg.....	2
Hopewell.....	31
Ettricks.....	1
Mumps:	
Hopewell.....	15
Chesterfield County.....	1
Ettricks.....	1
City Point.....	1
Pellagra:	
Petersburg.....	1
Pneumonia:	
Petersburg.....	3
Scarlet fever:	
Prince George County.....	1
Septic sore throat:	
Petersburg.....	2
Chesterfield County.....	2
Dinwiddie County.....	1
Ettricks.....	1
Tuberculosis:	
Petersburg.....	2

CAMP LOGAN ZONE, TEX.

Houston:	
Chicken pox.....	9
Measles.....	45
Mumps.....	6
Pneumonia.....	3
Scarlet fever.....	2
Smallpox.....	3
Syphilis.....	1
Trachoma.....	1
Typhoid fever.....	2
Magnolia Park:	
Smallpox.....	1

CAMP LEWIS ZONE, WASH.

Chicken pox:	
Lakeview.....	1
German measles:	
Stellacoom Lake.....	3
American Lake.....	2

CAMP LEWIS ZONE, WASH.—continued.

German measles—Continued.

Gravelly Lake.....	1
Spanaway.....	6
Lake City.....	3
Steilacoom.....	4
Custer.....	1
Roy.....	7

Measles:

American Lake.....	1
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Pneumonia, lobar:

Murray.....	1
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Whooping cough:

Steilacoom Lake.....	3
Lakeview.....	1

CAMP MACARTHUR ZONE, TEX.

Waco:

German measles.....	5
Gonorrhea.....	3
Measles.....	22
Mumps.....	26
Pneumonia, lobar.....	6
Smallpox.....	3
Tuberculosis.....	2
Whooping cough.....	1

Precinct One:

Cerebrospinal meningitis.....	1
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Precinct Four:

Mumps.....	1
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CAMP M'CLELLAN ZONE, ALA.

Cerebrospinal meningitis:

Precinct Thirteen.....	1
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Chicken pox:

Anniston.....	14
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Diphtheria:

Anniston.....	1
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German measles:

Anniston.....	3
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Measles:

Anniston.....	5
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Precinct Two.....	17
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Mumps:

Anniston.....	2
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Pneumonia:

Anniston.....	1
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Smallpox:

Anniston.....	26
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Precinct Nine.....	1
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Precinct Fifteen.....	1
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Precinct Twenty-three.....	1
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Tuberculosis:

Anniston.....	1
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Whooping cough:

Anniston.....	1
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NORFOLK COUNTY NAVAL DISTRICT, VA.

Cerebrospinal meningitis:

South Norfolk.....	1
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Norfolk County.....	1
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Chicken pox:

Portsmouth.....	2
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Diphtheria:

Portsmouth.....	1
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Port Norfolk.....	1
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Dysentery:

Portsmouth.....	1
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South Norfolk.....	1
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NORFOLK COUNTY NAVAL DISTRICT, VA.—continued.

Measles:

Portsmouth.....	12
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Mumps:

South Norfolk.....	3
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Pellagra:

South Norfolk.....	1
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Pneumonia:

South Norfolk.....	1
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Rabies:

Portsmouth.....	1
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Scarlet fever:

Portsmouth.....	6
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Smallpox:

Port Norfolk.....	2
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Pinner's Point.....	4
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Tuberculosis:

South Norfolk.....	1
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St. Brides.....	1
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PORT OGLETHORPE ZONE, GA.

Cerebrospinal meningitis:

Chattanooga.....	4
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St. Elmo.....	1
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Chicken pox:

Chattanooga.....	2
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Gonorrhea:

Chattanooga.....	4
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Measles:

Chattanooga.....	4
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East Lake.....	2
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Rossville.....	8
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Mumps:

Chattanooga.....	32
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North Chattanooga.....	1
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East Lake.....	3
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Rossville.....	2
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Pneumonia:

Chattanooga.....	2
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Rossville.....	2
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Scarlet fever:

East Lake.....	1
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Smallpox:

Chattanooga.....	4
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Syphilis:

Chattanooga.....	3
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Lakeview.....	1
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Tuberculosis:

St. Elmo.....	3
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Alton Park.....	1
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Typhoid fever:

Chattanooga.....	1
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Whooping cough:

Chattanooga.....	8
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Rossville.....	1
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CAMP PIKE ZONE, ARK.

Cerebrospinal meningitis:

Little Rock.....	1
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North Little Rock.....	2
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Chaneroid:

Little Rock.....	1
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Scotts.....	1
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Chicken pox:

Little Rock.....	4
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Diphtheria:

Little Rock.....	1
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North Little Rock.....	1
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CAMP PIKE ZONE, ARK.—continued.

German measles:	
Little Rock.....	1
Gonorrhea:	
Little Rock.....	10
North Little Rock.....	2
Hookworm:	
Marche.....	1
Malaria:	
Little Rock.....	8
North Little Rock.....	1
Measles:	
Little Rock.....	10
North Little Rock.....	1
Mumps:	
Little Rock.....	22
North Little Rock.....	4
Scotts.....	1
Pellagra:	
Scotts.....	2
Pneumonia:	
Little Rock.....	16
North Little Rock.....	5
Scarlet fever:	
North Little Rock.....	1
Smallpox:	
Little Rock.....	32
Camp Pike.....	1
Browns Camp.....	1
Syphilis:	
Little Rock.....	6
North Little Rock.....	1
Scotts.....	6
Trachoma:	
North Little Rock.....	1
Tuberculosis:	
Little Rock.....	8
North Little Rock.....	1
Scotts.....	1
Sweet Home.....	1
Typhoid fever:	
Little Rock.....	1
Tuckerman.....	1
Whooping cough:	
Little Rock.....	1
Toltec.....	6

CAMP SEVIER ZONE, S. C.

Greenville Township:	
Cerebrospinal meningitis.....	2
Measles.....	1
Scarlet fever.....	1
Typhoid fever.....	1
Chick Springs Township:	
Measles.....	1

CAMP SHERIDAN ZONE, ALA.

Chicken pox:	
Montgomery.....	8
Capitol Heights.....	1
German measles:	
Montgomery.....	2
Measles:	
Montgomery.....	13
Rural district.....	2
Scarlet fever:	
Montgomery.....	1

CAMP SHERIDAN ZONE, ALA.—continued.

Smallpox:	
Montgomery.....	6
Rural district.....	2

CAMP SHERMAN ZONE, OHIO.

Cerebrospinal meningitis:	
Chillicothe.....	1
Chicken pox:	
Chillicothe.....	1
Measles:	
Chillicothe.....	1
Liberty Township.....	1
Hallsville.....	2
Mumps:	
Liberty Township.....	2
Pneumonia, lobar:	
Chillicothe.....	1
Syphilis:	
Chillicothe.....	1
Scarlet fever:	
Chillicothe.....	5
Liberty Township.....	1
Trachoma:	
Union Township.....	5

CAMP ZACHARY TAYLOR ZONE, KY.

Jefferson County:	
Measles.....	2
Trachoma.....	5
Louisville:	
Cerebrospinal meningitis.....	2
Chicken pox.....	3
Diphtheria.....	4
Measles.....	15
Mumps.....	1
Pneumonia, lobar.....	1
Scarlet fever.....	1
Smallpox.....	3
Trachoma.....	2
Tuberculosis, pulmonary.....	6
Typhoid fever.....	1

TIDEWATER HEALTH DISTRICT, VA.

Chicken pox:	
Newport News.....	2
Cerebrospinal meningitis:	
Newport News.....	4
German measles:	
Newport News.....	2
Hampton.....	18
Phoebe.....	6
Measles:	
Newport News.....	4
Hampton.....	8
Phoebe.....	6
Mumps:	
Newport News.....	3

CAMP TRAVIS ZONE, TEX.

San Antonio:	
Gonorrhea.....	1
Measles.....	1
Mumps.....	2
Roseola.....	2
Syphilis.....	1
Trachoma.....	2

CAMP TRAVIS ZONE, TEX.—continued.

San Antonio—Continued.

Tuberculosis.....	3
Typhoid fever.....	1

CAMP WADSWORTH ZONE, S. C.

Cerebrospinal meningitis:

Arkwright Mills.....	1
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Chicken pox:

Spartanburg.....	1
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Diphtheria:

Pauline.....	1
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White Stone.....	1
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German measles:

Saxon Mills.....	1
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Glenn Springs.....	2
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Measles:

Spartanburg.....	8
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Pauline.....	3
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Mumps:

Spartanburg.....	4
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Pneumonia:

Pauline.....	2
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Smallpox:

Inman.....	2
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CAMP WADSWORTH ZONE, S. C.—continued.

Tuberculosis:

Spartanburg.....	1
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Whooping cough:

Spartanburg.....	12
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Fair Forest.....	2
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Hayne.....	1
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Pauline.....	2
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CAMP WHEELER ZONE, GA.

East Macon:

Mumps.....	3
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Macon:

Cerebrospinal meningitis.....	1
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Chicken pox.....	3
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Gonorrhea.....	2
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Measles.....	6
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Mumps.....	22
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Pellagra.....	1
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Pneumonia.....	1
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Scarlet fever.....	2
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Tuberculosis.....	2
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Typhoid fever.....	2
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DISEASE CONDITIONS AMONG TROOPS IN THE UNITED STATES.

The following data are taken from telegraphic reports received in the office of the Surgeon General, United States Army, for the week ended March 1, 1918:

Annual admission rate per 1,000 (disease only):

All troops.....	1,372.2
National Guard camps.....	1,101.7
National Army camps.....	1,557.1
Regular Army.....	1,334.6

Noneffective rate per 1,000 on day of report:

All troops.....	47.8
National Guard camps.....	42.2

Noneffective rate per 1,000 on day of report—Con.

National Army camps.....	54.5
Regular Army.....	42.9

Annual death rate per 1,000:

All troops.....	6.6
National Guard camps.....	6.4
National Army camps.....	5.9
Regular Army.....	7.9

New cases of special disease reported during the week ended Mar. 1, 1918.

Camps.	Pneu- mo- nia.	Dys- en- tery.	Ma- la- ria.	Ve- ne- real.	Mea- sles.	Men- ingi- tis.	Scar- let fever.	Deaths.	Annual admis- sion rate per 1,000 (disease only).	Nonef- fective per 1,000 on day of report.
Wadsworth.....	7			15	4	1		2	591.6	23.6
Hancock.....	6			23	10	6	3	2	432.2	26.9
McClellan.....	5			18	10		2	1	743.8	28.7
Sevier.....			2	22	2		1	3	1,670.1	70.0
Wheeler.....	9	1	3	45	2			6	1,360.6	46.6
Logan.....	8			70	32		2	2	1,127.2	34.6
Cody.....	30			7		1		2	634.8	37.5
Doniphan.....	14		1	8			3	8	1,772.2	47.6
Bowie.....	27			74	3	2	1	3	2,058.2	61.0
Sheridan.....	2			19	3	1	3		443.1	21.8
Shelby.....	2		1	29				2	1,252.0	54.2
Beauregard.....	16		2	16		2		7	1,318.1	55.4
Kearney.....				6	1		4	4	1,181.3	47.1
Devens.....	9			68	6		3	5	1,077.5	36.4
Upton.....	7			21				4	575.4	23.4
Dix.....	1			64	11		9	1	1,560.9	44.7
Meade.....	9			19	13		6	1	508.6	30.9
Lee.....	14			40	10	2		4	1,474.3	58.0
Jackson.....	5			29	7		4	4	1,794.0	71.4
Gordon.....	1			118	1			3	1,333.7	34.9
Sherman.....	10			31	35		27	3	1,934.7	61.8
Taylor.....	11			48	13	1	2	5	1,612.0	60.6
Custer.....	5			6	9		6	2	1,171.4	46.0

New cases of special disease reported during the week ended Mar. 1, 1918—Continued.

Camps.	Pneu- monia.	Dys- entery.	Ma- laria.	Ve- ne- real.	Mea- sles.	Men- ing- itis.	Scar- let fever.	Deaths.	Annual admis- sion rate per 1,000 (disease only).	Nonef- fective per 1,000 on day of report.
Grant.....	7	1	.....	10	12	.....	9	3	919.3	31.3
Pike.....	15	1	.....	138	17	2	9	3	2,050.9	95.6
Dodge.....	8	.....	.....	111	54	1	11	2	1,577.3	54.4
Funston.....	7	.....	.....	58	.....	3	2	3	2,081.7	97.3
Travis.....	33	1	.....	66	26	.....	.....	8	3,081.8	72.3
Lewis.....	3	.....	.....	31	52	2	37	.....	1,404.0	65.8
Northeastern Department.....	11	.....	.....	13	1	.....	.....	.....	984.8	31.9
Eastern Department.....	4	.....	2	16	10	1	2	1	681.5	27.0
Southeastern Department.....	4	.....	.....	29	13	1	6	5	1,456.7	46.7
Southern Department.....	22	1	.....	85	84	3	4	11	1,111.8	43.2
Central Department.....	4	.....	.....	31	10	2	9	1	1,499.6	47.8
Western Department.....	12	.....	.....	39	42	.....	8	1	986.5	31.5
Aviation, Signal Corps.....	41	.....	3	125	146	3	29	19	1,680.8	44.9
Camp Greene.....	11	.....	.....	17	13	1	.....	1	980.0	39.8
Camp Fremont.....	4	.....	1	26	3	.....	.....	.....	1,304.7	45.5
El Paso.....	.....	.....	.....	5	3	.....	.....	.....	847.1	4.6
Fort Slocum.....	1	.....	.....	12	4	.....	1	2	1,762.2	39.2
Columbus Barracks.....	2	.....	.....	13	.....	.....	2	.....	1,970.5	60.5
Fort Thomas.....	.....	.....	.....	6	.....	1	.....	4	1,634.3	77.6
Jefferson Barracks.....	4	.....	.....	7	14	.....	6	.....	2,025.2	127.1
Fort Logan.....	5	.....	.....	2	7	.....	3	.....	2,249.3	74.9
Fort McDowell.....	.....	.....	.....	2	6	.....	1	.....	1,698.6	52.0
Disciplinary Barracks, Fort Leavenworth.....	.....	.....	.....	1	.....	.....	.....	.....	1,368.4	30.5
Disciplinary Barracks, Al- catraz.....	.....	.....	.....	.....	.....	.....	.....	.....	656.1	15.7
Aberdeen Proving Ground.....	.....	.....	.....	.....	1	.....	.....	.....	2,451.0	54.0
Allentown, Artillery Con- centration Camp.....	7	.....	.....	1	2	.....	.....	.....	1,516.6	33.2
Camp Humphreys.....	.....	.....	.....	11	.....	.....	.....	.....	1,858.5	18.9
J. E. Johnston.....	1	.....	.....	25	17	.....	1	.....	913.3	32.0
Camp Meigs.....	2	.....	.....	11	7	.....	1	.....	2,648.6	35.3
Camp Merritt.....	17	.....	.....	20	5	.....	37	4	1,526.4	62.2
Camp Stuart.....	19	.....	.....	9	8	1	1	5	1,754.1	53.7
West Point, N. Y.....	.....	.....	.....	.....	19	.....	.....	.....	1,052.0	20.2
National Guard Depart- ments.....	1	.....	.....	16	24	.....	4	2	.....	.....
National Army Depart- ments.....	15	.....	1	136	46	.....	25	2	.....	.....
Total.....	464	6	16	2,292	820	37	284	157	1,372.2	47.8

Annual rate per 1,000 for special diseases.

	All troops in United States. ¹	Regulars in United States. ¹	National Guard, all camps. ¹	National Army, all camps. ¹	Expedition- ary Forces. ²
Pneumonia.....	19.7	22.0	20.6	16.8	21.3
Dysentery.....	.2	.2	.1	.3	.4
Malaria.....	.5	.8	1.3	.....	.4
Venereal.....	97.1	121.5	53.4	10.6	55.3
Typhoid.....	.2	.6	.....	.1	.....
Measles.....	34.7	54.7	10.2	31.1	26.9
Meningitis.....	1.5	1.7	1.9	1.3	6.0
Scarlet fever.....	12.0	14.6	2.9	14.5	10.5

¹ Week ended Mar. 1, 1918.

² Week ended Feb. 21, 1918.

CURRENT STATE SUMMARIES.

Alabama.

From Collaborating Epidemiologist Perry, by telegraph, for week ended March 9, 1918:

Smallpox, by counties: Butler 9, Jefferson 107, Mobile 25. Epidemic meningitis, by counties: Jefferson 12, Tuscaloosa 2.

Arkansas.

From Collaborating Epidemiologist Garrison, by telegraph, for week ended March 9, 1918:

Smallpox: Crossett 1 case, Pine Bluff 4, Fort Smith 10, Black Rock 1, Booneville 1, Texarkana 1, Forest City 7; by counties, Drew 9, Greene 12, Izard 7, Craighead 1, Perry 6, Clark 2, Cross 4. Measles: Crossett 5, Rogers 6, Datto 1, Gurdon 7, Fouke 21, Texarkana 4, Banks 2, Forest City 2, Dermott 5, Huttig 1, Conway 1; by counties, Drew 40, Izard 4, Perry 4, Clark 52. Chicken pox: Gurdon 1, Camden 4; by counties, Drew 16, Perry 2. Tuberculosis: Rogers 3, Gurdon 2, Lonsdale 1, Conway 1, Higden 1; by counties, Greene 1, Clark 6. Meningitis: Augusta 1, Perry County 1. Diphtheria: Gurdon 1. Scarlet fever: Gurdon 2, Izard County 1. Whooping cough: Gurdon 1, Fouke 3, Lonsdale 2, Higden 3; by counties, Greene 8, Perry 10. Report exclusive of Pulaski and Lonoke Counties.

California.

From the State Board of Health of California, by telegraph, for week ended March 9, 1918:

Increases in prevalence of all communicable diseases, especially diphtheria, measles, and smallpox. Of 34 cases smallpox, 16 are in San Francisco. Four epidemic cerebrospinal meningitis, 1 each in Stockton, Riverside County, San Bernardino, and Los Angeles. Two poliomyelitis, 1 San Jose and 1 Tulare County.

Reported by mail for preceding week (ended March 2):

Cerebrospinal meningitis.....	3	Mumps.....	182
Chicken pox.....	185	Pneumonia.....	65
Diphtheria.....	51	Poliomyelitis.....	1
Dysentery.....	1	Ophthalmia neonatorum.....	2
Erysipelas.....	9	Scarlet fever.....	74
German measles.....	295	Smallpox.....	25
Gonococcus infection.....	51	Syphilis.....	40
Hookworm.....	1	Trachoma.....	2
Leprosy.....	1	Tuberculosis.....	170
Malaria.....	2	Typhoid fever.....	12
Measles.....	1, 298	Whooping cough.....	85

Connecticut.

From Collaborating Epidemiologist Black, by telegraph, for week ended March 9, 1918:

Smallpox: Hartford 5, Montville 1. Meningitis: Hartford 1, New Milford 1, Wallingford 1, Ansonia 1.

Indiana.

From the State Board of Health of Indiana, by telegraph, for week ended March 9, 1918:

Scarlet fever: Epidemic Lucerne, Warren, Wolf Lake. Measles: Epidemic Rensselaer, Crown Point, Fountain City, Jonesville, Scottsburg, Elizabethtown. Smallpox: Epidemic Odon, South Bend. Diphtheria: Epidemic Wawaka; 1 death Decatur. Whooping cough: Epidemic Zionsville. Infantile paralysis: One case Howe.

Kansas.

From Collaborating Epidemiologist Crumbine, by telegraph, for week ended March 9, 1918:

Meningitis: Augusta 1 (total since February 6 for Butler County 9 cases), Corbin 1, De Soto 1, Eldorado 1, Hollister 1, Little River 1, Towanda 2. Smallpox: In cities, Topeka 16, Wichita 15; in counties, Atchison 24, Crawford 10.

Louisiana.

From Collaborating Epidemiologist Dowling, by telegraph, for week ended March 9, 1918:

Meningitis, excluding Rapides Parish: By parishes, Avoyelles 1, Caddo 1, Catahoula 1, Morehouse 1, Orleans 3, Saint Landry 2.

Massachusetts.

From Collaborating Epidemiologist Kelley, by telegraph, for week ended March 9, 1918:

Unusual prevalence. German measles: Danvers 31, Framingham 36, Newton 50. Measles: Beverly 104, Dartmouth 21, Quincy 70. Smallpox: Lowell 1, Marlboro 1, Milton 1.

Minnesota.

From Collaborating Epidemiologist Bracken, by telegraph, for week ended March 9, 1918:

Smallpox, new foci: Clearwater County, Clearbrook village; Douglas County, Carlos village; Kittson County, Poppleton Township, Lancaster village; Murray County, Lake Wilson village; Ottertail County, Aurdal Township; Pennington County, Reinner Township; Scott County, Shakopee city; each 1 case; Millelacs County, Milaca-village, 2; Mower County, Adams Township, 1; Lodi Township, 2. One cerebrospinal meningitis reported since March 4.

Nebraska.

From the State Board of Health of Nebraska, by telegraph, for week ended March 9, 1918:

Smallpox: Winnebago, Plattsmouth, Scotts Bluff, southern part of Cherry County. Poliomyelitis: Howells. Scarlet fever: Winnebago.

Ohio.

From Collaborating Epidemiologist Freeman, by telegraph, for week ended March 9, 1918:

Zanesville, typhoid fever 8 cases; Middleport, typhoid fever 5 cases.

South Carolina.

From Collaborating Epidemiologist Hayne, by telegraph, for week ended March 9, 1918:

Eight cases meningitis; 1 suspected case; week ended March 10.

Vermont.

From Collaborating Epidemiologist Dalton, by telegraph, for week ended March 9, 1918:

Smallpox: Barre 1, Rutland 3. No other outbreak or unusual prevalence.

Virginia.

From Collaborating Epidemiologist Traynham, by telegraph, for week ended March 9, 1918:

Six cases cerebrospinal meningitis Newport News, 3 Gloucester County, 1 Buchanan County, 1 Petersburg. One case smallpox Louisa County.

Washington.

From Collaborating Epidemiologist Tuttle, by telegraph, for week ended March 9, 1918:

Unusual prevalence communicable diseases in State: Thirty-seven cases scarlet fever Tacoma; German measles epidemic Seattle, Tacoma, and generally over the State.

CEREBROSPINAL MENINGITIS.**California Report for January, 1918.**

Place.	New cases reported.	Place.	New cases reported.
California:		California—Continued.	
Alameda County—		San Bernardino County—	
Oakland.....	1	Ontario.....	1
Los Angeles County.....	2	Santa Clara County—	
Los Angeles.....	4	San Jose.....	3
Orange County.....	2	Shasta County.....	1
Napa County.....	1	Solano County.....	
Riverside County.....	1	Mare Island.....	3
San Diego County.....		Tulare County—	
Naval Training Station.....	2	Lindsay.....	1
San Francisco County—		Total.....	27
Presidio.....	1		
San Francisco.....	4		

City Reports for Week Ended Feb. 23, 1918.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Alexandria, La.....	1	1	Fall River, Mass.....	1	
Anniston, Ala.....	1		Flint, Mich.....	2	2
Atlanta, Ga.....	6	2	Greenville, S. C.....	2	
Augustus, Ga.....	2	2	Hammond, Ind.....		1
Austin, Tex.....	1		Indianapolis, Ind.....	1	
Baltimore, Md.....	9	1	Kansas City, Kans.....	1	
Birmingham, Ala.....	3	1	Little Rock, Ark.....	1	1
Boston, Mass.....	5	2	Los Angeles, Cal.....	1	
Cambridge, Mass.....	1		Louisville, Ky.....	15	2
Charleston, S. C.....	3	1	Lowell, Mass.....	1	
Chattanooga, Tenn.....	2	2	Macon, Ga.....	3	1
Chelsea, Mass.....	1		Memphis, Tenn.....	1	
Chicago, Ill.....	7	2	Milwaukee, Wis.....	1	
Cincinnati, Ohio.....	1		Minneapolis, Minn.....	1	
Columbia, S. C.....	2		Montgomery, Ala.....	3	
Columbus, Ohio.....	1	1	Nashville, Tenn.....		1
Council Bluffs, Iowa.....	2	2	New Albany, Ind.....	2	1
Davenport, Iowa.....	1		Newark, N. J.....	3	1
Dayton, Ohio.....	4	5	New Haven, Conn.....	1	
Detroit, Mich.....	2		New Orleans, La.....	3	1
Elizabeth, N. J.....	1		New York, N. Y.....	19	11
Evansville, Ind.....	2	1	Norfolk, Va.....	3	2

City Reports for Week Ended Feb. 23, 1918—Continued.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Oakland, Cal.....	2	.....	Salt Lake City, Utah.....	1	.....
Passaic, N. J.....	.....	1	Sandusky, Ohio.....	.....	1
Philadelphia, Pa.....	6	5	San Francisco, Cal.....	2	.....
Pittsburgh, Pa.....	.....	1	Schenectady, N. Y.....	1	.....
Providence, R. I.....	2	.....	Washington, D. C.....	12	.....
Roanoke, Va.....	1	.....	Wilkesbarre, Pa.....	1	.....
Saginaw, Mich.....	.....	1	Worcester, Mass.....	.....	1
St. Louis, Mo.....	2	1			

DIPHTHERIA.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 368.

ERYSIPELAS.

City Reports for Week Ended Feb. 23, 1918.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Alameda, Cal.....	1	.....	New Britain, Conn.....	1	.....
Altoona, Pa.....	2	1	Newburgh, N. Y.....	.....	1
Atlanta, Ga.....	2	1	Newton, Mass.....	.....	1
Baltimore, Md.....	2	.....	New York, N. Y.....	.....	3
Bridgeport, Conn.....	1	.....	Omaha, Nebr.....	1	.....
Chicago, Ill.....	13	.....	Philadelphia, Pa.....	3	3
Cleveland, Ohio.....	4	.....	Pittsburgh, Pa.....	9	.....
Cumberland, Md.....	1	.....	Pontiac, Mich.....	1	.....
Dayton, Ohio.....	1	.....	Portland, Oreg.....	2	.....
Denver, Colo.....	1	1	Portsmouth, Va.....	.....	1
Detroit, Mich.....	4	.....	Providence, R. I.....	.....	1
Easton, Pa.....	1	.....	Rochester, N. Y.....	2	1
Erie, Pa.....	2	.....	St. Joseph, Mo.....	2	.....
Fall River, Mass.....	.....	1	St. Louis, Mo.....	4	1
Jackson, Mich.....	3	.....	St. Paul, Minn.....	1	.....
Johnstown, Pa.....	1	1	Salt Lake City, Utah.....	.....	1
Leavenworth, Kans.....	1	.....	San Diego, Cal.....	1	.....
Little Rock, Ark.....	2	.....	San Francisco, Cal.....	1	.....
Los Angeles, Cal.....	8	.....	Schenectady, N. Y.....	1	.....
Louisville, Ky.....	2	1	Seattle, Wash.....	1	.....
Memphis, Tenn.....	2	1	Toledo, Ohio.....	.....	1
Milwaukee, Wis.....	2	.....	Trenton, N. J.....	1	.....
Montclair, N. J.....	1	.....	Wichita, Kans.....	1	1
Newark, N. J.....	4	.....	Williamsport, Pa.....	1	.....

LEPROSY.

City Reports for Week Ended Feb. 23, 1918.

During the week ended February 23, 1918, one case of leprosy was reported at New Orleans, La., and one death from this disease was reported at Syracuse, N. Y.

MALARIA.

California Report for January, 1918.

Place.	New cases reported.	Place.	New cases reported.
California:		California—Continued.	
Butte County.....	5	San Francisco County—	
Chico.....	8	San Francisco.....	1
Glenn County—		U. S. N. Training Station.....	1
Orland.....	1	San Joaquin County.....	1
Kern County—		Yolo County—	
Bakersfield.....	1	Woodland.....	1
Placer County—			
Rocklin.....	2	Total.....	21

MALARIA—Continued.

City Reports for Week Ended Feb. 23, 1918.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Atlanta, Ga.....	1	.....	Little Rock, Ark.....	5	.....
Kokomo, Ind.....	.....	1	Macon, Ga.....	1	.....

MEASLES.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 368.

PELLAGRA.

California Report for January, 1918.

During the month of January, 1918, 2 cases of pellagra were notified in the State of California, 1 case each in San Diego and San Francisco Counties.

City Reports for Week Ended Feb. 23, 1918.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Birmingham, Ala.....	3	Mobile, Ala.....	.....	2
Charleston, S. C.....	1	Montgomery, Ala.....	.....	1
Houston, Tex.....	1	Petersburg, Va.....	1	.....
Lexington, Ky.....	3	Portsmouth, Va.....	.....	1
Lynchburg, Va.....	1	Spartanburg, S. C.....	2	.....
Macon, Ga.....	1			

PNEUMONIA.

City Reports for Week Ended Feb. 23, 1918.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Alameda, Cal.....	1	1	Lawrence, Mass.....	4	1
Anniston, Ala.....	6	.....	Lincoln, Nebr.....	3	1
Atlanta, Ga.....	2	3	Little Rock, Ark.....	12	.....
Atlantic City, N. J.....	1	1	Long Beach, Cal.....	2	1
Auburn, N. Y.....	2	.....	Lorain, Ohio.....	1	.....
Baltimore, Md.....	88	23	Los Angeles, Cal.....	21	9
Boston, Mass.....	72	48	Louisville, Ky.....	3	15
Bridgeport, Conn.....	2	12	Lynn, Mass.....	6	2
Brockton, Mass.....	2	.....	Manchester, N. H.....	2	2
Cambridge, Mass.....	26	8	McKeesport, Pa.....	2	.....
Charleston, W. Va.....	1	1	Melrose, Mass.....	3	2
Chattanooga, Tenn.....	2	.....	Nashville, Tenn.....	1	5
Chelsea, Mass.....	13	7	Newark, N. J.....	51	9
Chicago, Ill.....	168	88	New Bedford, Mass.....	2	1
Chicopee, Mass.....	2	.....	Newport, Ky.....	4	4
Cleveland, Ohio.....	34	24	North Little Rock, Ark.....	4	2
Covington, Ky.....	3	3	Norwalk, Conn.....	1	1
Cranston, R. I.....	2	1	Oak Park, Ill.....	1	.....
Cumberland, Md.....	4	.....	Pasadena, Cal.....	5	4
Dayton, Ohio.....	1	3	Philadelphia, Pa.....	185	93
Detroit, Mich.....	15	42	Pittsburgh, Pa.....	32	33
Duluth, Minn.....	1	1	Pontiac, Mich.....	3	1
Everett, Mass.....	3	1	Quincy, Mass.....	2	2
Fall River, Mass.....	2	1	Reading, Pa.....	2	.....
Fitchburg, Mass.....	2	1	Rochester, N. Y.....	16	7
Flint, Mich.....	1	1	Rutland, Vt.....	1	.....
Grand Rapids, Mich.....	2	1	Sacramento, Cal.....	1	2
Hammond, Ind.....	2	3	St. Joseph, Mo.....	2	.....
Harrisburg, Pa.....	1	4	San Francisco, Cal.....	13	11
Hattiesburg, Miss.....	1	.....	Schenectady, N. Y.....	4	2
Haverhill, Mass.....	7	1	Somerville, Mass.....	6	1
Houston, Tex.....	5	3	Spartanburg, S. C.....	1	.....
Jackson, Mich.....	3	1	Springfield, Mass.....	18	4
Jackson, Miss.....	8	.....	Stockton, Cal.....	4	.....
Johnstown, Pa.....	4	3	Taunton, Mass.....	3	2
Kalamazoo, Mich.....	4	1	Wichita, Kans.....	2	2
Kansas City, Kans.....	3	.....	Woburn, Mass.....	22	9
Lancaster, Pa.....	3	.....	Yonkers, N. Y.....	3	3

POLIOMYELITIS (INFANTILE PARALYSIS).**California Report for January, 1918.**

Place.	New cases reported.	Place.	New cases reported.
California:		California—Continued.	
Alameda County—		Sonoma County.....	2
Oakland.....	1	Tulare County—	
Los Angeles County—		Visalia.....	1
Whittier.....	1	Yuba County.....	1
Plumas County.....	2	Total.....	9
Sacramento County—			
Sacramento.....	1		

City Reports for Week Ended Feb. 23, 1918.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Milwaukee, Wis.....	6		Quincy, Ill.....	1	
New York, N. Y.....	1	1	Rochester, N. Y.....	1	1
Philadelphia, Pa.....	1	1	Somerville, Mass.....	1	

RABIES IN MAN.**City Reports for Week Ended Feb. 23, 1918.**

During the week ended February 23, 1918, two deaths from rabies were reported at Erie, Pa.

SCARLET FEVER.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 368.

SMALLPOX.**Missouri—Kansas City.**

During the period from March 6 to 12, 1918, 108 cases of smallpox were notified at Kansas City, Mo.

Texas—Eagle Pass—Virulent Smallpox.

During the week ended March 11, 1918, 10 new cases of smallpox, with 1 death, were notified at Eagle Pass, Tex., making a total of 108 cases of the disease, with 18 deaths, reported since January 1, 1918.

Texas—Lamar County.

On March 11, 1918, the presence of smallpox was reported in Lamar County, Tex., where about 250 cases of the disease, with 1 death, had occurred since December 1, 1917.

SMALLPOX—Continued.

California Report for January, 1918.

Place.	New cases reported.	Deaths.	Vaccination history of cases.			
			Number vaccinated within 7 years preceding attack.	Number last vaccinated more than 7 years preceding attack.	Number never successfully vaccinated.	Vaccination history not obtained or uncertain.
California:						
Fresno County—						
Fresno.....	3	.....	.....	1	2	.....
Imperial County.....	1	.....	.....	.....	1	.....
El Centro.....	1	.....	.....	.....	1	.....
Holtville.....	2	.....	.....	.....	2	.....
Kern County—						
Bakersfield.....	1	.....	.....	.....	1	.....
Maricopa.....	2	.....	.....	.....	.....	2
Los Angeles County—						
Glendale.....	1	.....	.....	1	.....	.....
Los Angeles.....	5	.....	.....	.....	5	.....
Venice.....	1	.....	.....	.....	1	.....
Nevada County.....	3	.....	.....	.....	3	.....
Grass Valley.....	1	.....	.....	.....	1	.....
Nevada City.....	3	.....	.....	.....	3	.....
Orange County.....	1	.....	.....	1	1	.....
Santa Ana.....	1	.....	.....	.....	1	.....
Riverside County—						
Riverside.....	1	.....	.....	.....	1	.....
Sacramento County—						
Sacramento.....	3	.....	.....	.....	3	.....
San Bernardino County—						
San Bernardino.....	1	.....	.....	.....	1	.....
Needles.....	1	.....	.....	.....	1	.....
Redlands.....	2	.....	.....	.....	2	.....
San Francisco County—						
San Francisco.....	6	.....	.....	.....	6	.....
Shasta County.....	1	.....	.....	.....	.....	1
Ventura County.....	1	.....	.....	.....	1	.....
Total.....	42	.....	.....	2	37	3

Miscellaneous State Reports.

During the month of December, 1917, 18 cases of smallpox were reported in the State of Idaho, and during January, 1918, 5 cases were reported in the same State.

City Reports for Week Ended Feb. 23, 1918.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Akron, Ohio.....	20	.....	Covington, Ky.....	2	.....
Alexandria, La.....	1	.....	Davenport, Iowa.....	3	.....
Alton, Ill.....	6	.....	Dayton, Ohio.....	11	.....
Anniston, Ala.....	5	.....	Denver, Colo.....	37	.....
Atlanta, Ga.....	1	.....	Des Moines, Iowa.....	29	.....
Austin, Tex.....	2	1	Detroit, Mich.....	54	1
Berlin, N. H.....	9	.....	Dubuque, Iowa.....	7	.....
Birmingham, Ala.....	72	.....	Durham, N. C.....	1	.....
Butte, Mont.....	6	.....	Erie, Pa.....	6	.....
Canton, Ohio.....	5	.....	Evansville, Ind.....	5	.....
Cedar Rapids, Iowa.....	1	.....	Flint, Mich.....	8	.....
Charleston, W. Va.....	2	.....	Fort Smith, Ark.....	5	.....
Chattanooga, Tenn.....	6	.....	Fort Wayne, Ind.....	17	.....
Chicago, Ill.....	6	.....	Galesburg, Ill.....	1	.....
Cincinnati, Ohio.....	13	.....	Grand Rapids, Mich.....	11	.....
Cleveland, Ohio.....	88	.....	Hammond, Ind.....	4	.....
Coffeyville, Kans.....	11	.....	Harrisburg, Pa.....	1	.....
Colorado Springs.....	1	.....	Hattiesburg, Miss.....	5	.....
Columbus, Ga.....	3	.....	Houston, Tex.....	9	.....
Columbus, Ohio.....	7	.....	Indianapolis, Ind.....	59	.....
Council Bluffs, Iowa.....	59	.....	Johnstown, Pa.....	1	.....

SMALLPOX—Continued.

City Reports for Week Ended Feb. 23, 1918—Continued.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Kansas City, Kans.	45		New Orleans, La.	16	
Knoxville, Tenn.	6		New York, N. Y.	1	
Kokomo, Ind.	1		North Little Rock, Ark.	2	
La Crosse, Wis.	10		Ogden, Utah.	2	
Leavenworth, Kans.	7		Oklahoma City, Okla.	33	
Lexington, Ky.	1		Omaha, Nebr.	42	
Lincoln, Nebr.	5		Pontiac, Mich.	12	
Little Rock, Ark.	35		Portland, Oreg.	2	
Lorain, Ohio.	2		Quincy, Ill.	12	
Los Angeles, Cal.	4		St. Joseph, Mo.	19	
Louisville, Ky.	1		St. Louis, Mo.	27	
Lowell, Mass.	1		St. Paul, Minn.	4	
Macon, Ga.	10		Salt Lake City, Utah.	27	
Madison, Wis.	2		San Francisco, Cal.	2	
Milwaukee, Wis.	2		Sioux City, Iowa.	16	
Minneapolis, Minn.	35		South Bend, Ind.	1	
Mobile, Ala.	17		Steelton, Pa.	1	
Montgomery, Ala.	7		Terre Haute, Ind.	3	
Muncie, Ind.	10		Toledo, Ohio.	19	
Muskogee, Okla.	4		Wheeling, W. Va.	1	
Nashville, Tenn.	3		Wichita, Kans.	24	

TETANUS.

City Reports for Week Ended Feb. 23, 1918.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Harrisburg, Pa.	1	1	New York, N. Y.		1
Mobile, Ala.		2	Philadelphia, Pa.	1	2

TUBERCULOSIS.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 368.

TYPHOID FEVER.

State Reports for December, 1917, and January, 1918.

Place.	New cases reported.	Place.	New cases reported.
California (Jan. 1-31, 1918):		California (Jan. 1-31, 1918)—Continued.	
Alameda County—		San Bernardino County—	
Emeryville	1	Needles	1
Oakland	6	San Bernardino	1
Hayward	1	San Diego County—	
Colusa County—		San Diego	3
Colusa	1	San Francisco County—	
Fresno County	4	San Francisco	7
Clovis	1	San Joaquin County	3
Fresno	1	Stockton	3
Humboldt County	1	San Mateo County	2
Lassen County—		Santa Barbara County—	
Susanville	2	Santa Maria	1
Los Angeles County—		Santa Clara County	3
Alhambra	1	Siskiyou County	1
Long Beach	3	Dunsmuir	3
Los Angeles	14	Sutter County	1
Monterey County—		Stanislaus County—	
Monterey	2	Modesto	1
Orange County—		Tehama County	1
Brea	1	Corning	2
Placer County	1	Total	81
Riverside County	3	Idaho (Dec. 1-31, 1917)	10
Sacramento County	3		
Sacramento	1		
San Benito County—			
Hollister	1		

TYPHOID FEVER—Continued.

City Reports for Week Ended Feb. 23, 1918.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Altoona, Pa.	2	.....	New Haven, Conn.	1	.....
Baltimore, Md.	3	.....	New Orleans, La.	1	.....
Birmingham, Ala.	1	.....	New York, N. Y.	7	.....
Boston, Mass.	2	.....	Norfolk, Va.	.....	2
Braddock, Pa.	1	.....	Norristown, Pa.	1	.....
Brockton, Mass.	2	.....	Oakland, Cal.	2	1
Chicago, Ill.	3	.....	Omaha, Nebr.	1	.....
Cincinnati, Ohio.	.....	1	Philadelphia, Pa.	7	1
Columbus, Ohio.	.....	1	Pittsburgh, Pa.	2	1
Detroit, Mich.	1	1	Quincy, Ill.	.....	1
East Chicago, Ind.	1	.....	Reading, Pa.	1	.....
Erie, Pa.	.....	1	Richmond, Va.	1	.....
Everett, Mass.	1	.....	St. Louis, Mo.	2	1
Fitchburg, Mass.	2	.....	San Francisco, Cal.	3	.....
Flint, Mich.	2	.....	Seattle, Wash.	1	.....
Hammond, Ind.	7	1	Springfield, Ohio.	2	1
Harrisburg, Pa.	1	.....	Stockton, Cal.	2	.....
Indianapolis, Ind.	2	.....	Tacoma, Wash.	1	.....
Kansas City, Kans.	1	.....	Trenton, N. J.	1	.....
Kokomo, Ind.	1	.....	Wheeling, W. Va.	.....	1
Little Rock, Ark.	1	.....	Wichita, Kans.	1	.....
Long Branch, N. J.	1	.....	Wilkesburg, Pa.	2	.....
Los Angeles, Cal.	4	.....	Wilmington, N. C.	.....	1
Minneapolis, Minn.	10	2	Winston-Salem, N. C.	1	1
Moline, Ill.	2	.....	York, Pa.	1	.....
New Bedford, Mass.	1	.....	Zanesville, Ohio.	8	1
New Britain, Conn.	1	.....		

TYPHUS FEVER.

Massachusetts—Chelsea.

On February 27, 1918, a case of typhus fever was reported in Chelsea, Mass., in the person of L. T., male, aged 47 years, a store-keeper, who had lived at 137 Walnut Street for a period of 2 years, had not visited any other place during the last month previous to the attack. The symptoms and history of the case were typical, but the source of infection could not be determined. Careful investigation failed to show any vermin on persons in the family or in the residence.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

State Reports for November, 1917, and January, 1918.

State.	Cases reported.		
	Diphtheria.	Measles.	Scarlet fever.
California, Jan. 1-31, 1918.	340	2,561	559
Idaho, Nov. 1-30, 1917.	.....	.....	10
Idaho, Jan. 1-31, 1918.	21	5	9

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS— Continued.

City Reports for Week Ended Feb. 23, 1918.

City.	Popula- tion as of July 1, 1916. (Estimated by U. S. Census Bureau.)	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Over 500,000 inhabitants:										
Baltimore, Md.	589,621	266	16	1	152	13	65	32		
Boston, Mass.	756,476	298	66	11	143	27	59	33		
Chicago, Ill.	2,497,722	661	14	18	55	1	62	1	319	69
Cleveland, Ohio.	674,073	166	54	1	14	10	23	21		
Detroit, Mich.	571,784	239	53	8	22	6	43	1	43	23
Los Angeles, Cal.	503,812	162	16	1	302	17	42	25		
New York, N. Y.	5,602,841	1,579	227	16	1,125	26	116	2	251	172
Philadelphia, Pa.	1,709,518	655	42	4	245	1	44	2	108	67
Pittsburgh, Pa.	579,090	191	22	2	90	1	3	28	9	
St. Louis.	757,309	220	61	3	117	1	33	1	65	20
From 300,000 to 500,000 inhabit- ants:										
Cincinnati, Ohio.	410,476	145	13	4	18	1	19	19		
Jersey City, N. J.	306,345	13	13	76	13	11	11			
Milwaukee, Wis.	436,535	95	5	168	34	23	2			
Minneapolis, Minn.	363,454	7	1	37	24	1	6			
Newark, N. J.	408,894	18	1	209	3	13	55	21		
New Orleans, La.	371,747	26	81	1	2	36	25			
San Francisco, Cal.	463,516	10	1	80	10	27	22			
Seattle, Wash.	348,639	8	71	9	4	6				
Washington, D. C.	363,980	149	14	271	4	23	31	16		
From 200,000 to 300,000 inhabit- ants:										
Columbus, Ohio.	214,878	76	40	26	8	6				
Denver, Colo.	260,800	77	1	280	28	13				
Indianapolis, Ind.	271,708	77	16	103	35	19	12			
Louisville, Ky.	238,910	99	6	33	2	7	7			
Portland, Oreg.	295,463	52	86	3	7	4				
Providence, R. I.	251,960	77	7	5	5	1	6			
Rochester, N. Y.	256,417	77	13	59	19	13	4			
St. Paul, Minn.	247,232	53	17	35	29	15	6			
From 100,000 to 200,000 inhabit- ants:										
Albany, N. Y.	104,199	2	21	2	5					
Atlanta, Ga.	190,558	67	6	4	6	9				
Birmingham, Ala.	181,762	68	3	61	2	6	4			
Bridgeport, Conn.	121,579	32	11	6	3	7	3			
Cambridge, Mass.	112,981	58	6	63	1	8	7			
Camden, N. J.	106,233	3	29	3	1					
Dayton, Ohio.	127,221	55	2	32	12	9	2			
Des Moines, Iowa.	101,598	3	2	12	2					
Fall River, Mass.	128,396	32	3	3	14	5	5			
Grand Rapids, Mich.	128,291	36	2	11	2	2	2			
Hartford, Conn.	110,900	50	10	3	6	3	7			
Houston, Tex.	112,397	47	13	3	3	7				
Lawrence, Mass.	100,590	37	2	17	5	7				
Lowell, Mass.	113,215	39	5	4	2	5				
Lynn, Mass.	102,425	29	2	9	2	2	1			
Memphis, Tenn.	148,995	62	11	25	2	10	6			
Nashville, Tenn.	117,057	46	1	11	6	8				
New Bedford, Mass.	118,158	37	3	22	1	6	1			
New Haven, Conn.	149,685	46	2	1	3	5	4			
Oakland, Cal.	198,604	54	2	31	2	5	5			
Omaha, Nebr.	165,470	35	7	67	15	7				
Reading, Pa.	109,381	23	3	4	4	12	1			
Richmond, Va.	158,687	67	5	44	5	3	6			
Salt Lake City, Utah.	117,399	32	2	19	15	111				
Scranton, Pa.	146,811	56	5	3	4	1	3			
Springfield, Mass.	105,942	43	7	39	4	16	3			
Syracuse, N. Y.	155,624	51	6	85	5	5	2			
Tacoma, Wash.	112,770			1	18					
Toledo, Ohio.	191,554	69	3	9	5	5				
Trenton, N. J.	111,593	47	2	13	1	6	5			
Worcester, Mass.	163,314	51	1	4	2	12	2			
From 50,000 to 100,000 inhabit- ants:										
Akron, Ohio.	85,625		10	11	5	4				
Altoona, Pa.	58,659		5	3		1				
Atlantic City, N. J.	57,669			4		3				
Augusta, Ga.	59,215			15		3	1			
Bayonne, N. J.	69,823		2	85	5	2				
Berkeley, Cal.	57,653	14		6	3	1				

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS— Continued.

City Reports for Week Ended Feb. 23, 1918—Continued.

City.	Popula- tion as of July 1, 1916. (Estimated by U. S. Census Bureau.)	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 50,000 to 100,000 inhabitants—Continued.										
Binghamton, N. Y.	53,973	19	1	1	14	8	1	1	1	1
Brockton, Mass.	67,449	18	1	1	10	1	3	2	2	2
Canton, Ohio	60,852	19	1	1	2	1	1	1	1	1
Charleston, S. C.	60,734	25	5	5	2	1	1	1	1	1
Chattanooga, Tenn.	60,075	6	1	1	6	1	1	1	1	1
Covington, Ky.	57,144	25	2	2	2	2	2	2	2	2
Duluth, Minn.	94,495	13	2	2	23	3	4	4	4	4
Elizabeth, N. J.	86,660	24	5	5	69	3	1	1	1	1
El Paso, Tex.	63,705	40	1	1	14	1	1	1	1	1
Erie, Pa.	75,195	31	6	1	3	5	4	3	3	3
Evansville, Ind.	76,078	30	3	3	12	4	2	2	2	2
Flint, Mich.	54,772	17	2	2	4	6	1	1	1	1
Fort Wayne, Ind.	76,183	22	4	4	1	1	1	1	1	1
Harrisburg, Pa.	72,015	26	2	2	13	5	1	1	1	1
Hoboken, N. J.	77,214	19	1	1	11	2	7	3	3	3
Holyoke, Mass.	65,296	15	1	1	9	2	4	1	1	1
Johnstown, Pa.	68,529	38	2	2	2	10	2	1	1	1
Kansas City, Kans.	99,437	1	1	1	29	5	1	1	1	1
Lancaster, Pa.	50,853	1	1	1	3	6	1	1	1	1
Little Rock, Ark.	57,343	14	2	2	36	3	4	2	2	2
Manchester, N. H.	78,283	19	5	5	13	5	1	1	1	1
Mobile, Ala.	58,221	29	2	1	1	1	1	1	1	1
New Britain, Conn.	53,794	21	2	2	14	2	1	1	1	1
Norfolk, Va.	89,612	3	3	3	18	1	1	1	1	1
Oklahoma City, Okla.	92,943	21	1	1	10	1	3	2	2	2
Passaic, N. J.	71,744	20	2	1	1	1	3	3	3	3
Pawtucket, R. I.	59,411	20	1	1	4	1	1	1	1	1
Portland, Me.	63,867	28	1	1	9	1	1	1	1	1
Rockford, Ill.	55,185	13	1	1	19	4	1	1	1	1
Sacramento, Cal.	66,895	23	1	1	39	1	1	1	1	1
Saginaw, Mich.	55,642	17	2	2	1	3	1	1	1	1
St. Joseph, Mo.	85,236	32	4	4	37	5	1	1	1	1
San Diego, Cal.	53,350	11	1	1	20	1	2	6	6	6
Schenectady, N. Y.	99,519	28	3	3	13	2	2	3	3	3
Sioux City, Iowa	57,078	1	1	1	23	5	6	3	3	3
Somerville, Mass.	87,039	23	4	1	26	5	1	1	1	1
South Bend, Ind.	68,948	22	4	1	9	1	1	1	1	1
Springfield, Ill.	61,120	13	1	1	32	1	1	1	1	1
Springfield, Ohio.	51,550	18	1	1	9	1	5	1	1	1
Terre Haute, Ind.	66,083	21	5	1	4	2	5	5	5	5
Troy, N. Y.	77,916	22	2	2	4	2	3	1	1	1
Wichita, Kans.	70,722	1	1	1	159	1	3	1	1	1
Wilkes-Barre, Pa.	76,776	17	5	5	59	3	3	5	5	5
Wilmington, Del.	94,265	43	1	1	11	1	2	1	1	1
Yonkers, N. Y.	99,838	1	1	1	6	5	2	1	1	1
York, Pa.	51,656	2	2	2	10	2	6	1	1	1
From 25,000 to 50,000 inhabitants:										
Alameda, Cal.	27,732	11	1	1	7	1	1	1	1	1
Auburn, N. Y.	37,385	13	1	1	7	1	1	1	1	1
Austin, Tex.	34,814	31	1	1	1	1	1	1	1	1
Brookline, Mass.	32,730	9	1	1	9	5	1	1	1	1
Butler, Pa.	27,632	10	3	1	59	3	1	1	1	1
Butte, Mont.	43,425	17	2	2	1	4	1	1	1	1
Cedar Rapids, Iowa.	37,308	1	1	1	6	4	1	1	1	1
Charleston, W. Va.	29,941	15	1	1	1	1	1	1	1	1
Charlotte, N. C.	39,923	1	1	1	18	1	4	4	4	4
Chelsea, Mass.	46,192	20	2	2	28	2	1	1	1	1
Chicopee, Mass.	29,319	4	1	1	3	1	1	1	1	1
Clinton, Iowa	27,386	1	1	1	28	1	1	1	1	1
Colorado Springs, Colo.	32,971	14	2	1	23	1	4	7	7	7
Columbia, S. C.	34,611	25	2	2	10	1	1	1	1	1
Columbus, Ga.	25,950	6	1	1	1	1	1	1	1	1
Council Bluffs, Iowa	31,484	1	1	1	5	2	1	1	1	1
Cranston, R. I.	25,987	8	1	1	1	1	1	1	1	1
Cumberland, Md.	26,074	6	1	1	2	11	1	1	1	1
Danville, Ill.	32,261	10	1	1	33	1	1	1	1	1
Davenport, Iowa	48,811	1	1	1	4	16	1	1	1	1
Dubuque, Iowa.	39,873	1	1	1	8	1	1	1	1	1
Durham, N. C.	25,061	5	1	1	7	1	1	1	1	1

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS— Continued.

City Reports for Week Ended Feb. 23, 1918—Continued.

City.	Popula- tion as of July 1, 1916. (Estimated by U. S. Census Bureau.)	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 25,000 to 50,000 inhabit- ants—Continued.										
East Chicago, Ind.	28,743	11	1							
Easton, Pa.	30,530	23			11					1
East Orange, N. J.	42,458	8	1		20		2		1	1
Elgin, Ill.	28,203	9			3					
Elmira, N. Y.	38,120	4		1	43		1	1	3	1
Evanston, Ill.	28,591	7			20					
Everett, Mass.	39,233	9	6		10		2		6	
Fitchburg, Mass.	41,781	11			12		1		3	
Fort Smith, Ark.	28,638				1					
Galveston, Tex.	41,863	16			1				4	
Green Bay, Wis.	29,353	6			8		2			
Hammond, Ind.	26,171	21	1		2		3		1	
Haverhill, Mass.	48,477	9			18		3	1	4	
Jackson, Mich.	35,363	18	9		6		15	2	1	1
Kalamazoo, Mich.	48,886	11	2	1	5				4	1
Kenosha, Wis.	31,576	3	8		4		3	1		
Kingston, N. Y.	26,771	7								
Knoxville, Tenn.	38,676		1		65				1	1
La Crosse, Wis.	31,677	6	3				2		1	
Lexington, Ky.	41,097	16			24					3
Lincoln, Nebr.	46,515	10			7		5		1	1
Long Beach, Cal.	27,587	15			64		4			
Lorain, Ohio.	33,964		2				1			
Lynchburg, Va.	32,940	14	1		7				4	
Macon, Ga.	45,757	23	1		12		3		1	2
Madison, Wis.	30,699	8	1		25		3		1	1
McKeesport, Pa.	47,521	14	2		14		1			2
Medford, Mass.	26,234	8	1		5		2		1	1
Moline, Ill.	27,451	9	1		8		2			
Montclair, N. J.	26,318	3			116		2		1	
Montgomery, Ala.	43,285	11			19		1			3
Muncie, Ind.	25,424	8	1		6				1	1
Muskogee, Okla.	44,218		1		14					
Nashua, N. H.	27,327	12	1							
Newburgh, N. Y.	29,603	7	2		8				2	1
New Castle, Pa.	41,133				20					
Newport, Ky.	31,927	11							1	1
Newport, R. I.	30,108	8	2				1			
Newton, Mass.	43,715	16	2	1	37				1	2
Niagara Falls, N. Y.	37,353	10			1		1		1	
Norristown, Pa.	31,401	7			1		1			2
Norwalk, Conn.	26,899								1	2
Oak Park, Ill.	26,654	10	1		18		3		1	1
Ogden, Utah.	31,404	4			24					
Orange, N. J.	33,080	13			14				3	2
Pasadena, Cal.	46,450	17			74				3	1
Perth Amboy, N. J.	41,185	15			1				2	2
Petersburg, Va.	25,582		1		9		1		4	
Pittsfield, Mass.	38,629	7			5		3		1	3
Portsmouth, Va.	39,651	17			11		1			
Quincy, Ill.	36,798	11			8		1			
Quincy, Mass.	38,135	17	2		49		3		1	2
Racine, Wis.	46,486	14	1		21		2		2	
Roanoke, Va.	43,284	13			18					3
Rock Island, Ill.	28,926		5	1	21		4			
San Jose, Cal.	38,002		1		31		2		4	
Steubenville, Ohio.	27,445	15			1					
Stockton, Cal.	35,358	14			41		1			
Superior, Wis.	46,226	12			17		1			
Taunton, Mass.	36,283	11			1				10	4
Waltham, Mass.	30,570	7			3		1			1
Watertown, N. Y.	29,894	3	1		16					3
West Hoboken, N. J.	43,139	8			1					
Wheeling, W. Va.	43,377	13			2					3
Williamsport, Pa.	33,809	8	4				1			
Wilmington, N. C.	29,892	19								3
Winston-Salem, N. C.	31,155	26			35				7	
Zanesville, Ohio.	30,863	8							7	2

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS— Continued.

City Reports for Week Ended Feb. 23, 1918—Continued.

City.	Population as of July 1, 1916. (Estimated by U. S. Census Bureau.)	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 10,000 to 25,000 inhabitants:										
Alexandria, La.	15,333	6			4					
Alton, Ill.	22,871	11	2		10					1
Ann Arbor, Mich.	15,010	7	3		14		1		2	
Anniston, Ala.	14,112				3					
Beaver Falls, Pa.	13,532				1					
Berlin, N. H.	13,599	2	1							
Braddock, Pa.	21,685	5			5					
Cairo, Ill.	15,794	12								4
Chillicothe, Ohio.	15,470	3			2					
Clinton, Mass.	13,075	5			2		2			
Coffeyville, Kans.	17,548				22					1
Concord, N. H.	22,660	10	2	2	2		1			
Galesburg, Ill.	24,276	8			5		1			
Greenville, S. C.	18,181	7			5				1	
Hattiesburg, Miss.	16,482				3		1			
Kearney, N. J.	23,539	11			11		1		1	1
Kokomo, Ind.	20,930	11			3		1		1	
La Fayette, Ind.	21,286	6			2		2			
Leavenworth, Kans.	19,363	4								
Long Branch, N. J.	15,395	2								
Marinette, Wis.	14,610	4					1			1
Melrose, Mass.	17,445	4			2		1			
Muscatine, Iowa.	17,509				3					
Nanticoke, Pa.	23,126	9	1				5			
New Albany, Ind.	23,629	12			1					
Newburyport, Mass.	15,243	7			2					2
North Adams, Mass.	22,019	12							1	
Northampton, Mass.	19,926	13					3		2	1
North Little Rock, Ark.	14,907	2			4		1		2	
Plainfield, N. J.	23,805	11			1		1		1	
Pontiac, Mich.	17,521	15	2		1		4		2	2
Portsmouth, N. H.	11,666	1	1		7		4	1		
Rocky Mount, N. C.	12,067	4			2				2	
Rutland, Vt.	14,831	9								
Sandusky, Ohio.	20,193	6								
Saratoga Springs, N. Y.	13,821	3			1				1	
Spartanburg, S. C.	21,365	9			7	3			1	
Steelton, Pa.	15,548	2	1		1		5			
Washington, Pa.	21,618				101		1			
Wilkinsburg, Pa.	23,228	14			6					
Woburn, Mass.	15,969	6								

¹ Population Apr. 15, 1910; no estimate made.

FOREIGN.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER.

Reports Received During Week Ended Mar. 15, 1918.¹

PLAGUE.

Place.	Date.	Cases.	Deaths.	Remarks.
Indo-China:				
Cochin-China—				
Saigon.....	Dec. 31-Jan. 6.....	2		
Straits Settlements:				
Singapore.....	Dec. 23-29.....	1	1	

SMALLPOX.

Algeria:				
Algiers.....	Jan. 1-31.....	2		
Brazil:				
Rio de Janeiro.....	Jan. 19-26.....	38	9	
Canada:				
Nova Scotia—				
Sydney.....	Feb. 17-23.....	2		
Ontario—				
Sarnia.....	Feb. 24-Mar. 2....	3		
China:				
Chungking.....	Dec. 30-Jan. 12....			Present.
Dairen.....	Jan. 20-26.....	2		
Shanghai.....	Jan. 21-27.....	5	7	
Tientsin.....	Jan. 20-26.....	4		
Indo-China:				
Cochin-China—				
Saigon.....	Dec. 31-Jan. 6.....	17	10	
Italy:				
Turin.....	Jan. 14-Feb. 3.....	53	6	
Mexico:				
Aguascalientes.....	Feb. 11-17.....		1	
Matatlan.....	Feb. 13-19.....		1	
Vera Cruz.....	Feb. 10-16.....	2		
Newfoundland:				
St. Johns.....	Feb. 16-22.....	4		
Porto Rico:				
San Juan.....	Feb. 11-17.....	1		
Russia:				
Archangel.....	Sept. 1-Oct. 31....	7		
Straits Settlements:				
Singapore.....	Dec. 23-29.....	2		
Do.....	Dec. 30-Jan. 5.....	1		

TYPHUS FEVER.

Great Britain:				
Belfast.....	Feb. 10-16.....	4	1	
Greece:				
Saloniki.....	Dec. 30-Jan. 19....		11	
Japan:				
Nagasaki.....	Jan. 28-Feb. 3.....	2		
Union of South Africa:				
Cape of Good Hope State...	Nov. 19-25.....	37	7	Sept. 10-Nov. 25, 1917: Cases, 3,724 (European, 31; native, 3,693); deaths, 761 (European, 5; native, 756).

¹ From medical officers of the Public Health Service, American consuls, and other sources.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 29, 1917, to Mar. 8, 1918.

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
China:				
Antung.....	Nov. 26-Dec. 2....	3	1	
India:				
Bombay.....	Oct. 28-Nov. 24....	17	12	
Calcutta.....	Sept. 16-Dec. 8....		81	
Madras.....	Nov. 25-Dec. 1....	1	1	
Rangoon.....	Nov. 4-Dec. 1....	3	3	
Indo-China:				
Provinces.....				Sept. 1-Oct. 31, 1917: Cases, 113; deaths, 57.
Anam.....	Sept. 1-Oct. 31....	17	13	
Cambodia.....	do.....	41	25	
Cochin-China.....	do.....	43	17	
Saigon.....	Nov. 22-Dec. 9....	4	3	
Kwang-Chow-Wan.....	Sept. 1-30.....	10	2	
Java:				
East Java.....	Oct. 28-Nov. 3....	1	1	
West Java.....				Oct. 19-Dec. 20, 1917: Cases, 100; deaths, 57.
Batavia.....	Oct. 19-Dec. 20....	55	21	
Persia:				
Mazanderan Province.....				July 30-Sept. 3, 1917: Cases, 384; deaths, 276.
Achraf.....	July 30-Aug. 16....	90	88	Present.
Astrabad.....	July 31.....			
Barfrush.....	July 1-Aug. 16....	39	25	
Chahmirzad.....				25 cases reported July 31, 1917.
Chahrastagh.....	June 15-July 25....	10	8	
Charoud.....	Aug. 26-Sept. 3....	4	2	
Damghan.....	Aug. 26.....			Present.
Kharek.....	May 28-June 11....	21	13	
Meched.....	Aug. 18-Sept. 2....	174	82	
Ouzoun Dare.....	Aug. 8.....			Do.
Sabzevar.....	Aug. 24.....			Do.
Sari.....	July 3-29.....	273	144	
Semnan.....	Aug. 31-Sept. 2....	14	5	
Yekchambe-Bazar.....	June 3.....	6		
Philippine Islands:				
Provinces.....				Nov. 18-Dec. 29, 1917: Cases, 1,053; deaths, 693. Dec. 30, 1917-Jan. 19, 1918: Cases, 447; deaths, 192.
Antique.....	Nov. 18-Dec. 1....	48	32	
Bohol.....	Nov. 18-Dec. 29....	169	111	
Do.....	Dec. 30-Jan. 19....	57	52	
Capiz.....	Nov. 25-Dec. 29....	27	21	
Do.....	Dec. 30-Jan. 19....	41	35	
Cebu.....	Dec. 23-29.....	3		
Do.....	Dec. 30-Jan. 19....	36	17	
Hilo.....	Nov. 25-Dec. 29....	179	135	
Do.....	Dec. 30-Jan. 19....	42	27	
Leyte.....	Nov. 25-Dec. 22....	13	12	
Mindanao.....	Nov. 25-Dec. 29....	337	196	
Do.....	Dec. 30-Jan. 19....	224	135	
Occidental Negros.....	Nov. 25-Dec. 22....	177	123	
Do.....	Jan. 13-19.....	45	15	
Oriental Negros.....	Nov. 25-Dec. 29....	99	62	
Do.....	Dec. 30-Jan. 19....	12	11	
Rombon.....	Nov. 25-Dec. 1....	1	1	
Siam:				
Bangkok.....	Sept. 16-22.....	1	1	
Turkey in Asia:				
Bagdad.....	Nov. 1-15.....		40	

PLAGUE.

Brazil:				
Bahia.....	Nov. 4-Dec. 15....	4	4	
Do.....	Dec. 30-Jan. 12....	3	2	
Rio de Janeiro.....	Dec. 23-29.....	1		
Do.....	Jan. 6-12.....	1	1	
British Gold Coast:				
Axim.....	Jan. 8.....			Present.
Ceylon:				
Colombo.....	Oct. 14-Dec. 1....	14	13	
Ecuador:				
Guayaquil.....	Sept. 1-30.....	3	1	Sept. 1-Nov. 30, 1917: Cases, 68; deaths, 24.
Do.....	Oct. 1-31.....	20	8	
Do.....	Nov. 1-30.....	45	15	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 29, 1917, to Mar. 8, 1918—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Egypt:				
Port Said	July 23-29.	1	2	Jan. 1-Nov. 15, 1917: Cases, 728; deaths, 398.
India:				Sept. 16-Dec. 1, 1917: Cases, 151,751; deaths, 113,431.
Bombay	Oct. 28-Dec. 1.	103	85	
Calcutta	Sept. 16-29.		2	
Benazada	Oct. 21-27.	1	1	
Karachi	Oct. 21-Dec. 1.	11	9	
Madras Presidency	Oct. 31-Nov. 17.	3,294	2,560	
Mandalay	Oct. 14-Nov. 17.		89	
Rangoon	Oct. 21-Dec. 1.	32	38	
Indo-China:				
Provinces:				Sept. 1-Oct. 31, 1917: Cases, 70; deaths, 64.
Anam	Sept. 1-Oct. 31.	25	24	
Cambodia	do.	30	19	
Cochin-China	do.	15	11	
Saigon	Oct. 31-Dec. 23.	17	6	
Java:				
East Java				Oct. 27-Nov. 25, 1917: Cases, 75; deaths, 73.
Surabaya	Nov. 11-25.	2	2	
West Java				Nov. 25-Dec. 9, 1917: Cases, 45; deaths, 45.
Peru:				Dec. 1, 1917-Jan. 15, 1918: Cases, 106.
Ancachs Department—				
Casma	Dec. 1-Jan. 15.	2		
Lambayeque Department	do.	22		At Chiclayo, Ferrenafe, Jayanca, Lambayeque.
Libertad Department	do.	72		At Guadalupe, Mansiche, Pacasmayo, Salaverry, San Jose, San Pedro, and country district of Trujillo.
Lima Department	do.	9		City and country.
Piura Department—				
Catacaos	do.	1		
Senegal:				
St. Louis	Feb. 2.			Present.
Siam:				
Bangkok	Sept. 16-Dec. 23.	13	9	
Straits Settlements:				
Singapore	Oct. 28-Dec. 22.	4	6	

SMALLPOX.

Algeria:				
Algiers	Nov. 1-Dec. 31.	3	1	
Australia:				
New South Wales:				July 12-Dec. 20, 1917: Cases, 36; Jan. 4-17, 1918: Cases, 1.
Abermain	Oct. 25-Nov. 29.	3		Newcastle district.
Cessnock	July 12-Oct. 11.	7		
Eumangla	Aug. 15.	1		
Kurri Kurri	Dec. 5-20.	2		
Mungindi	Aug. 13.	1		
Warren	July 12-Oct. 25.	22		
Do.	Jan. 1-17.	1		
Brazil:				
Bahia	Nov. 10-Dec. 8.	3		
Pernambuco	Nov. 1-15.	1		
Rio de Janeiro	Sept. 30-Dec. 29.	703	190	
Do.	Dec. 30-Jan. 19.	120	33	
Sao Paulo	Oct. 29-Nov. 4.		2	
Canada:				
British Columbia—				
Vancouver	Jan. 13-Feb. 16.	4		
Victoria	Jan. 7-Feb. 2.	2		
Winnipeg	Dec. 30-Jan. 5.	1		
New Brunswick—				
Kent County	Dec. 4.			Outbreak. On main line Canadian Ry., 25 miles north of Moncton.
Do.	Jan. 22.	40		In 7 localities.
Northumberland County	do.	41		In 5 localities.
Restigouche County	Jan. 18.	60		
Victoria County	Jan. 22.	10		
Westmoreland County, Moncton.	Jan. 20-Feb. 23.	8		At Limestone and a lumber camp.
York County	Jan. 22.	8		

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 29, 1917, to Mar. 8, 1918—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Canada—Continued.				
Nova Scotia—				
Sydney.....	Feb. 3-9.....	1		
Ontario—				
Hamilton.....	Dec. 16-22.....	1		
Do.....	Jan. 13-19.....	2		
Sarnia.....	Dec. 9-15.....	1		
Do.....	Jan. 6-Feb. 23.....	25		
Toronto.....	Feb. 10-16.....	1		
Windsor.....	Dec. 30-Jan. 5.....	1		
Prince Edward Island—				
Charlottetown.....	Feb. 7-13.....	1		
Quebec—				
Montreal.....	Dec. 16-Jan. 5.....	5		
Do.....	Jan. 6-12.....	1		
China:				
Amoy.....	Oct. 22-Dec. 30.....			Present.
Antung.....	Dec. 3-23.....	13	2	
Do.....	Jan. 7-27.....	4	2	
Chungking.....	Nov. 11-Dec. 29.....			Do.
Dairen.....	Nov. 18-Dec. 22.....	3	1	
Do.....	Dec. 30-Jan. 12.....	2		
Harbin.....	May 14-June 30.....	20		Chinese Eastern Ry.
Do.....	July 1-Dec. 2.....	7		Do.
Hongkong.....	Dec. 23-29.....	1		
Hungtshotze Station.....	Oct. 28-Nov. 4.....	1		Do.
Manchuria Station.....	May 14-June 30.....	6		Do.
Do.....	July 1-Dec. 2.....	3		Do.
Mukden.....	Nov. 11-24.....			Present.
Shanghai.....	Nov. 18-Dec. 23.....	41	91	Cases, foreign; deaths among natives.
Do.....	Dec. 31-Jan. 20.....	20	68	Do.
Tientsin.....	Nov. 11-Dec. 22.....	13		
Do.....	Dec. 30-Jan. 19.....	5		
Cuba:				
Habana.....	Jan. 7.....	1		Nov. 8, 1917; 1 case from Coruna; Dec. 5, 1917, 1 case.
Marianao.....	Jan. 8.....	1		6 miles distant from Habana.
Ecuador:				
Guayaquil.....	Sept. 1-30.....	8		Sept. 1-Nov. 30, 1917: Cases, 26; deaths, 2.
Do.....	Oct. 1-31.....	14	1	
Do.....	Nov. 1-30.....	4	1	
Egypt:				
Alexandria.....	Nov. 12-18.....	1		
Do.....	Jan. 8-14.....	3		
Cairo.....	July 23-Nov. 12-18.....	6	1	
France:				
Lyon.....	Nov. 18-Dec. 16.....	6	3	
Do.....	Jan. 7-20.....	5		
India:				
Bombay.....	Oct. 21-Dec. 1.....	16	4	
Karachi.....	Nov. 18-24.....		1	Nov. 11-17, 1907; 10 cases with 4 deaths; imported on s. s. Menesa from Basreh.
Madras.....	Oct. 31-Dec. 8.....	9	3	
Rangoon.....	Oct. 28-Nov. 24.....	4	1	
Indo-China:				
Provinces.....				Sept. 1-Oct. 31, 1917: Cases, 345; deaths, 98.
Anam.....	Sept. 1-Oct. 31.....	103	15	
Cambodia.....	do.....	10	3	
Cochin-China.....	do.....	222	76	
Saigon.....	Oct. 20-Dec. 30.....	120	26	
Laos.....	Oct. 1-31.....	1		
Tonkin.....	Sept. 1-Oct. 31.....	9	4	
Italy:				
Castellamare.....	Dec. 10.....	2		Among refugees.
Florence.....	Dec. 1-15.....	17	4	
Leghorn.....	Jan. 7-27.....	17	5	
Messina.....	Jan. 3-19.....	1		
Milan.....				Oct. 1-Nov. 30, 1917: Cases, 17.
Naples.....	To Dec. 10.....	2		Among refugees.
Turin.....	Oct. 29-Dec. 9.....	123	129	
Japan:				
Nagasaki.....	Jan. 14-27.....	3	1	
Taihoan.....	Dec. 15-21.....	1		Island of Taiwan (Formosa).
Do.....	Jan. 8-14.....	1		Do.
Yokohama.....	Jan. 17-23.....	2		

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 29, 1917, to Mar. 8, 1918—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Java:				
East Java.....	Oct. 7-Dec. 9.....	25	.....
Mid-Java.....	Oct. 10-Nov. 21....	55	.....	Oct. 10-Dec. 12, 1917: Cases, 63; death, 1.
Samarang.....	Dec. 6-12.....	1	1	
West Java.....				Oct. 19-Dec. 20, 1917: Cases, 217; deaths, 33.
Batavia.....	Nov. 2-8.....	1	.....
Mexico:				
Aguascalientes.....	Feb. 4-10.....	.....	1	
Mazatlan.....	Dec. 5-11.....	.....	1	
Do.....	Jan. 29-Feb. 12....	4	.....
Mexico City.....	Nov. 11-Dec. 29....	16	.....
Do.....	Dec. 30-Feb. 2....	30	.....
Piedras Negras.....	Jan. 11.....	200	.....
Vera Cruz.....	Jan. 20-Feb. 9....	4	3	
Newfoundland:				
St. Johns.....	Dec. 8-Jan. 4.....	29	.....
Do.....	Jan. 5-Feb. 15....	25	.....
Trepassey.....	Jan. 4.....	.....	.....	Outbreak with 11 cases reported.
Philippine Islands:				
Manila.....	Oct. 28-Dec. 8....	5	.....
Do.....	Jan. 13-19.....	3	.....
Porto Rico:				
San Juan.....	Jan. 28-Feb. 3....	1	.....	Variceloid.
Portugal:				
Lisbon.....	Nov. 4-Dec. 15....	2	.....
Do.....	Dec. 30-Jan. 19....	2	.....
Portuguese East Africa:				
Lourenço Marques.....	Aug. 1-Nov. 30....	.....	9	
Russia:				
Moscow.....	Aug. 26-Oct. 6....	22	2	
Petrograd.....	Aug. 31-Nov. 18....	76	3	
Siam:				
Bangkok.....	Nov. 25-Dec. 1....	1	1	
Spain:				
Coruna.....	Dec. 2-15.....	.....	4	
Madrid.....				Jan. 1-Dec. 31, 1917: Deaths, 77.
Seville.....	Oct. 1-Dec. 30....	.....	66	
Straits Settlements:				
Singapore.....	Nov. 25-Dec. 1....	1	1	
Tunisia:				
Tunis.....	Dec. 14-20.....	.....	1	
Turkey in Asia:				
Bagdad.....				Present in November, 1917.
Venezuela:				
Maracaibo.....	Dec. 2-8.....	.....	1	

TYPHUS FEVER.

Algeria:				
Algiers.....	Nov. 1-Dec. 31....	2	1	
Argentina:				
Rosario.....	Dec. 1-31.....	.....	1	
Australia:				
South Australia.....				Nov. 11-17, 1917: Cases, 1.
Brazil:				
Rio de Janeiro.....	Oct. 28-Dec. 1....	7	.....
Canada:				
Ontario—				
Kingston.....	Dec. 2-8.....	3	.....
Quebec—				
Montreal.....	Dec. 16-22.....	2	1	
China:				
Antung.....	Dec. 3-30.....	13	1	
Do.....	Dec. 31-Jan. 27....	2	2	
Chosen (Formosa):				
Seoul.....	Nov. 1-30.....	1	.....
Egypt:				
Alexandria.....	Nov. 8-Dec. 28....	57	15	
Do.....	Jan. 8-14.....	20	7	
Cairo.....	July 23-Dec. 16....	137	70	
Port Said.....	July 30-Nov. 11....	5	5	
Great Britain:				
Glasgow.....	Dec. 21.....	1	.....
Do.....	Jan. 20-26.....	1	.....
Manchester.....	Dec. 2-8.....	1	.....

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 29, 1917, to Mar. 8, 1918—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Greece:				
Saloniki.....	Nov. 11-Dec. 29.....		72	
Japan:				
Nagasaki.....	Nov. 26-Dec. 16.....	5	5	
Do.....	Jan. 7-27.....	3		
Java:				
East Java.....				Oct. 15-Dec. 9, 1917: Cases, 24; deaths, 3.
Mid-Java.....				Oct. 10-Dec. 12, 1917: Cases, 54; deaths, 2.
Samarang.....	Oct. 17-Dec. 5.....	15	2	
West Java.....				Oct. 19-Dec. 20, 1917: Cases, 73; deaths, 15.
Batavia.....	Oct. 19-Dec. 20.....	73	17	
Mexico:				
Aguascalientes.....	Dec. 15.....		2	
Do.....	Jan. 21-Feb. 10.....		14	
Durango, State—				
Guanacevi.....	Feb. 11.....			Epidemic.
Mexico City.....	Nov. 11-Dec. 29.....	476		
Do.....	Dec. 30-Feb. 2.....	237		
Portugal:				
Lisbon.....	Feb. 21.....			Present.
Oporto.....	do.....			Epidemic.
Russia:				
Archangel.....	Sept. 1-14.....	7	2	
Moscow.....	Aug. 26-Oct. 6.....	49	2	
Petrograd.....	Aug. 31-Nov. 18.....	32		
Do.....	Feb. 2.....			Present.
Vladivostok.....	Oct. 29-Nov. 4.....	12	1	
Sweden:				
Goteborg.....	Nov. 18-24.....	1		
Switzerland:				
Basel.....	Jan. 6-12.....		1	
Zurich.....	Nov. 9-15.....	2		
Do.....	Jan. 13-19.....	2		
Tunisia:				
Tunis.....	Nov. 30-Dec. 6.....		1	
Turkey:				
Albania—				
Janina.....	Jan. 27.....			Epidemic.
Union of South Africa:				
Cape of Good Hope State...	Sept. 10-Nov. 11..	3,460	701	

YELLOW FEVER.

Ecuador.....				Sept. 1-Nov. 30, 1917: Cases, 5; deaths, 3.
Guayaquil.....	Sept. 1-30.....	1	1	
Do.....	Oct. 1-31.....	1		
Do.....	Nov. 1-30.....	2	2	
Yaguachi.....	do.....	1		
Honduras:				
Tegucigalpa.....	Dec. 16-22.....		1	
Do.....	Jan. 6-19.....		1	